

FIG.1

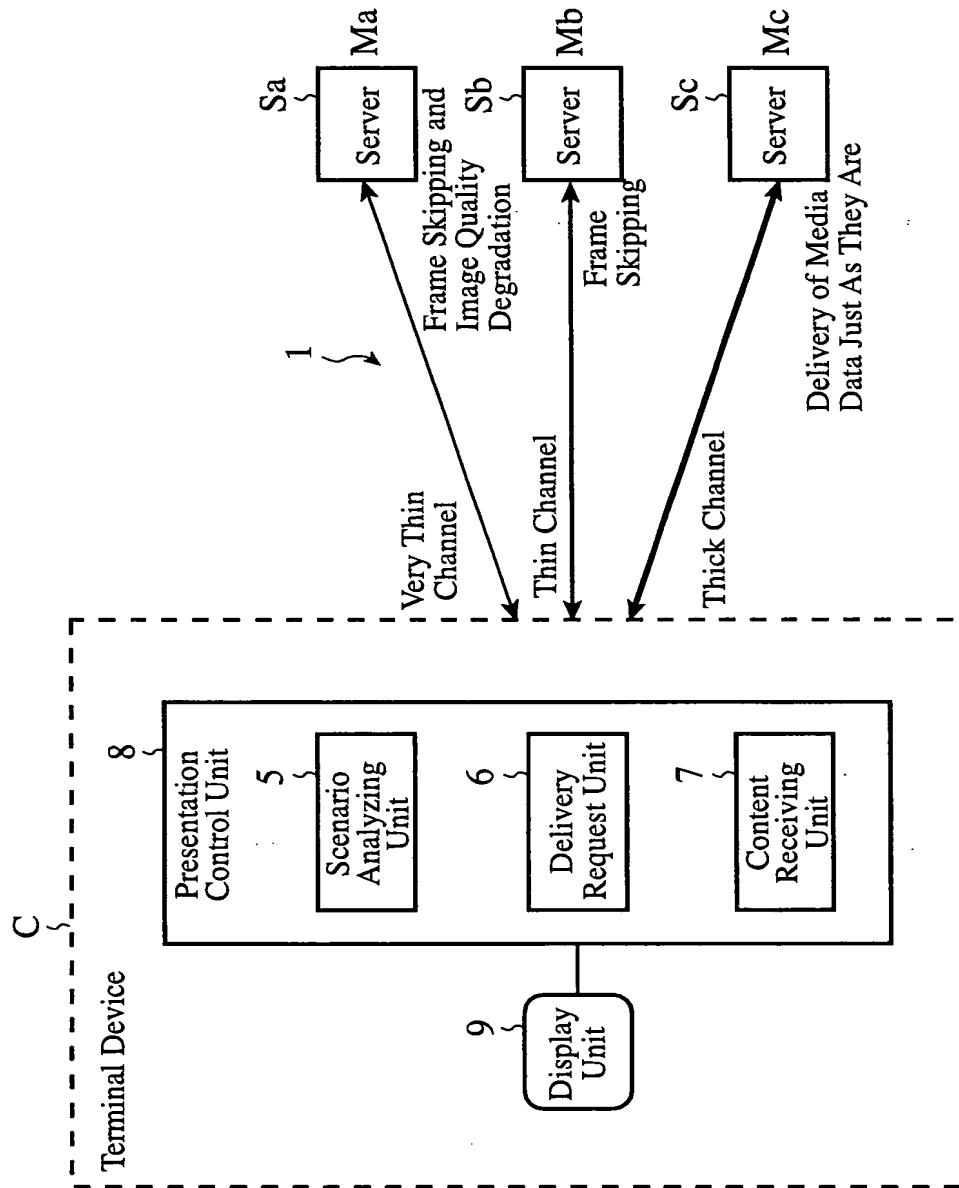
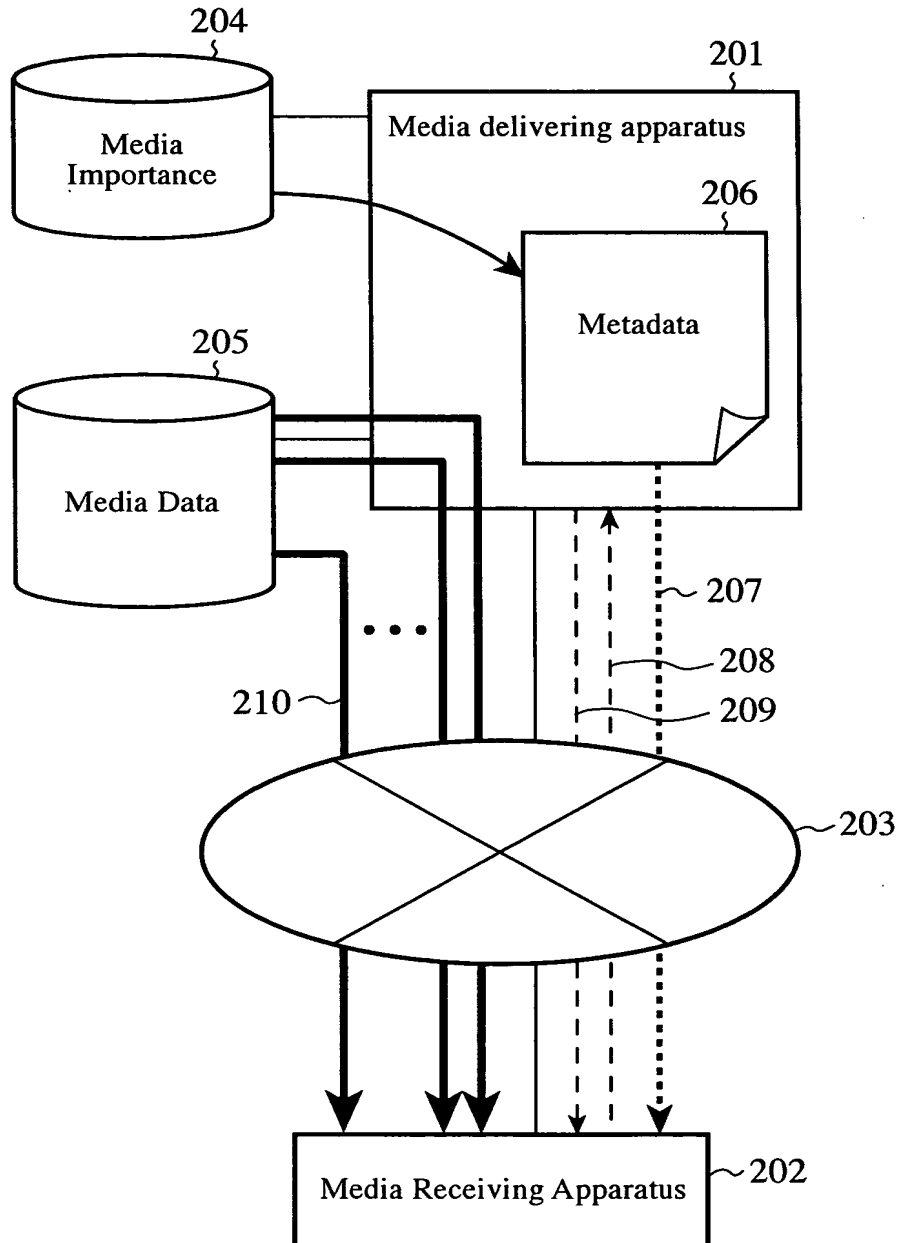
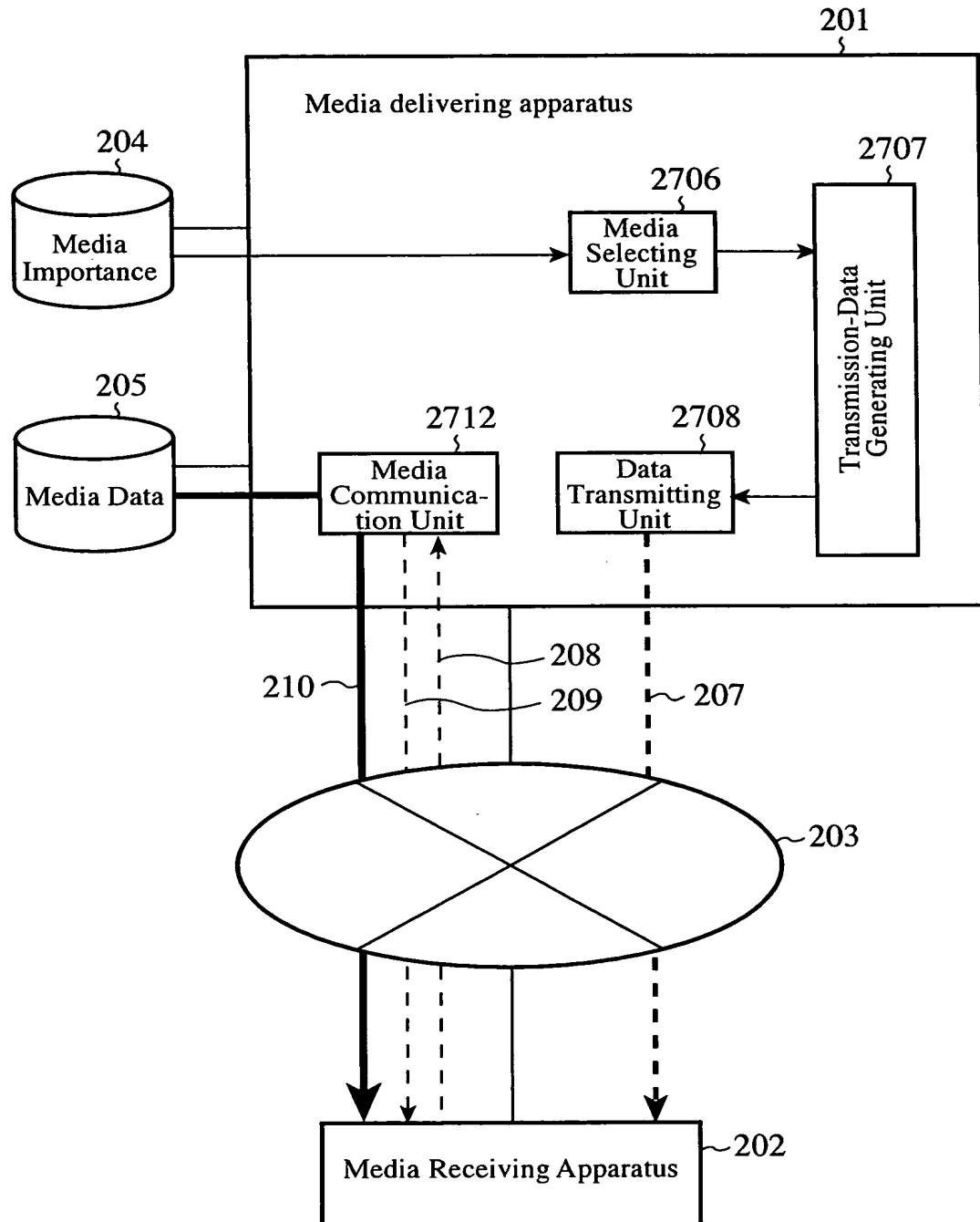


FIG.2



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FIG.3



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FIG.4

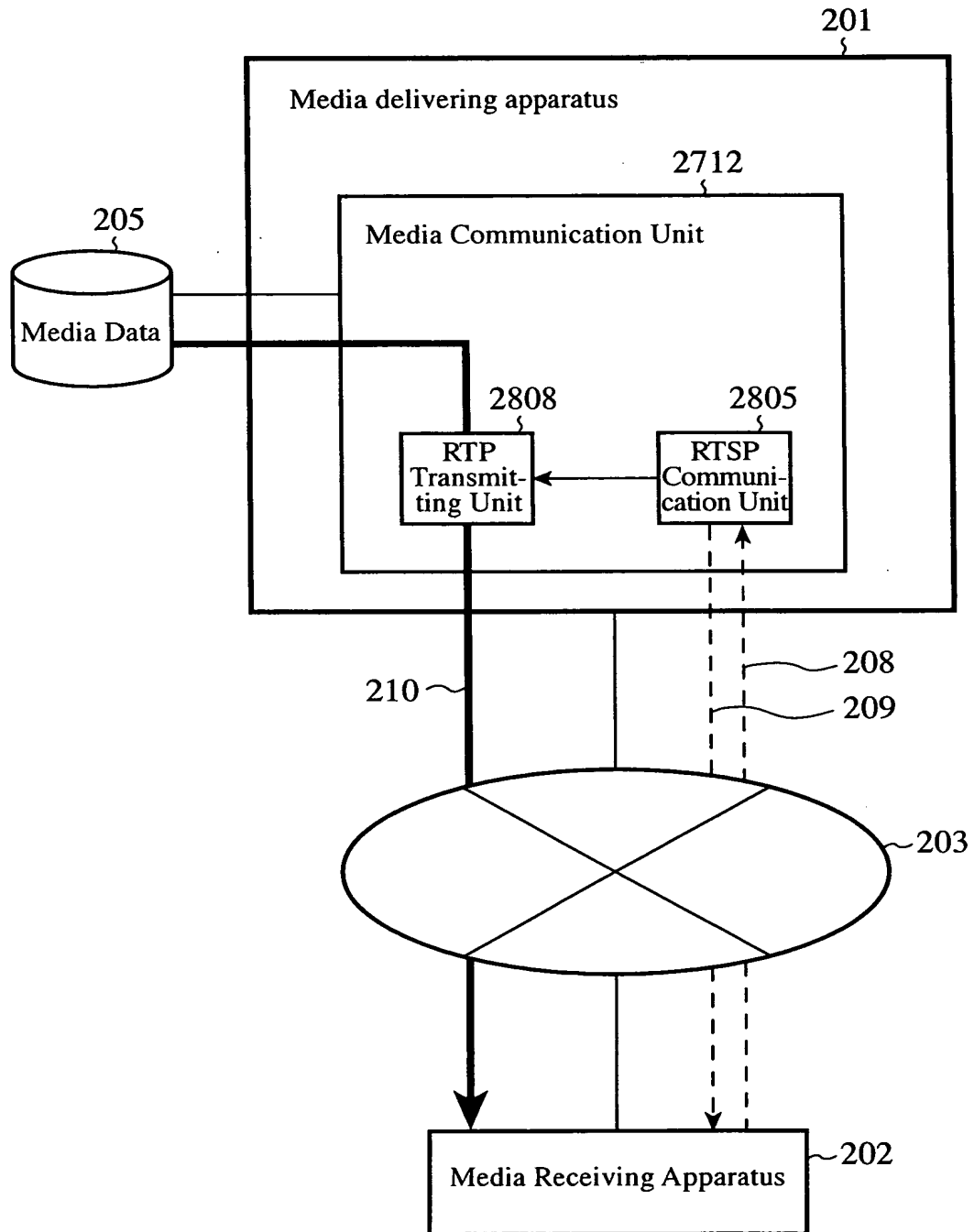


FIG.5

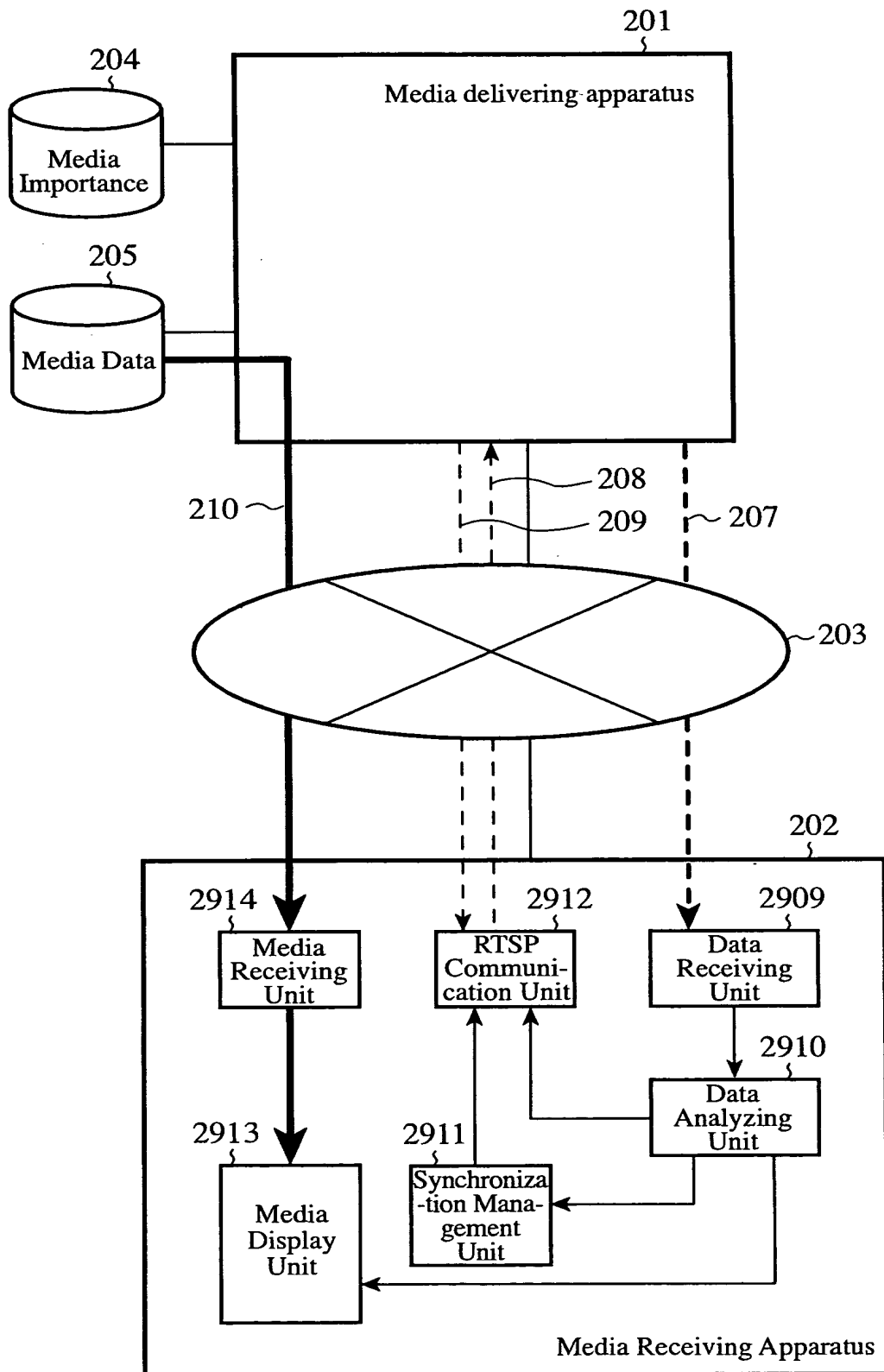


FIG.6

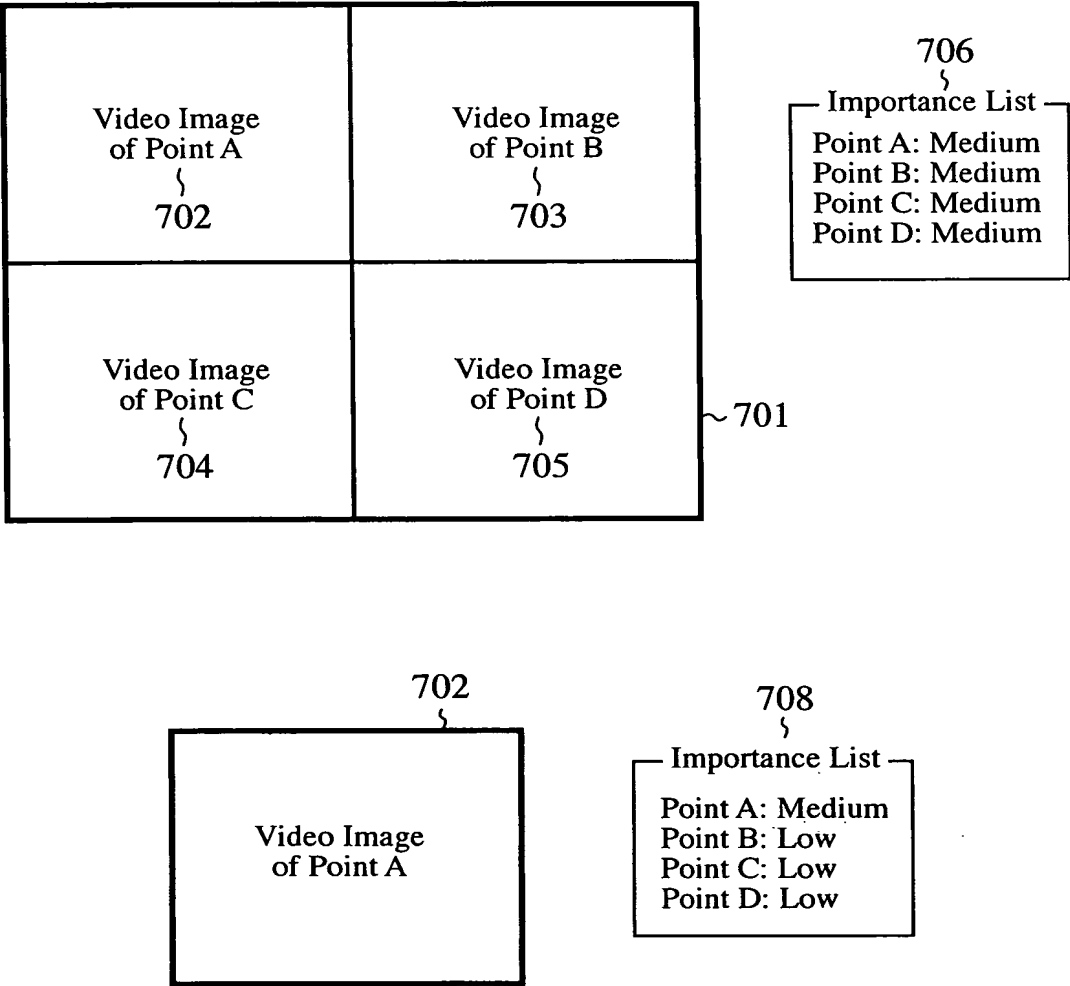
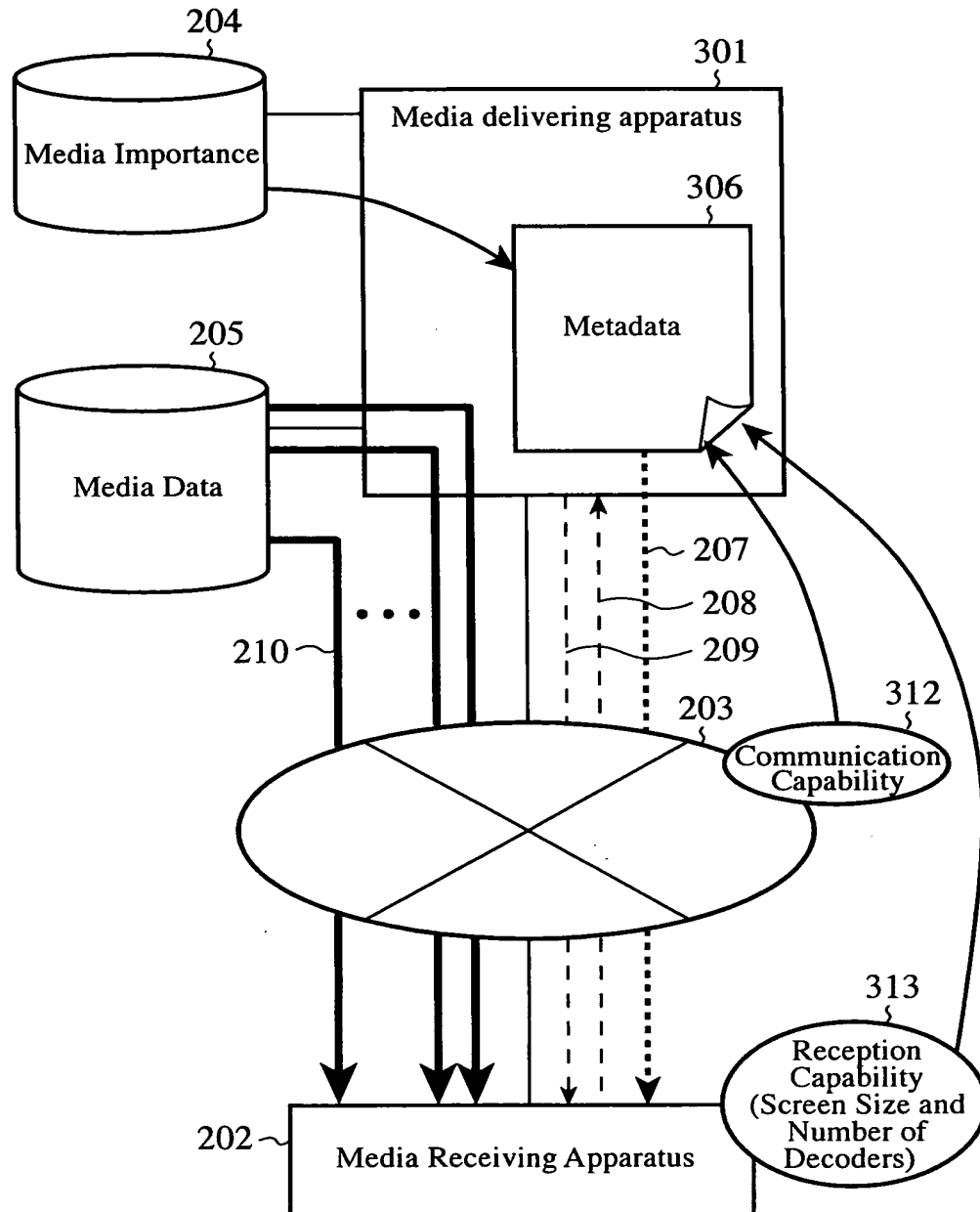


FIG.7

1301 {

```
1302 ~<smil>
1303 ~<head>
1304 ~<layout>
1305 ~<root-layout width="640" height="480"/>
1306 ~<region id="topleft" left="0" top="0" width="320" height="240" />
~<region id="topright" left="320" top="0" width="320" height="240" />
~<region id="bottomleft" left="0" top="240" width="320" height="240" />
~<region id="bottomright" left="320" top="240" width="320" height="240" />
~</layout>
~</head>
1307 ~<body>
1308 ~<par>
1309 ~<video region="topleft" src="rtsp://server/A.mp4" />
~<video region="topright" src="rtsp://server/B.mp4" />
~<video region="bottomleft" src="rtsp://server/C.mp4" />
~<video region="bottomright" src="rtsp://server/D.mp4" />
~</par>
~</body>
~</smil>
```

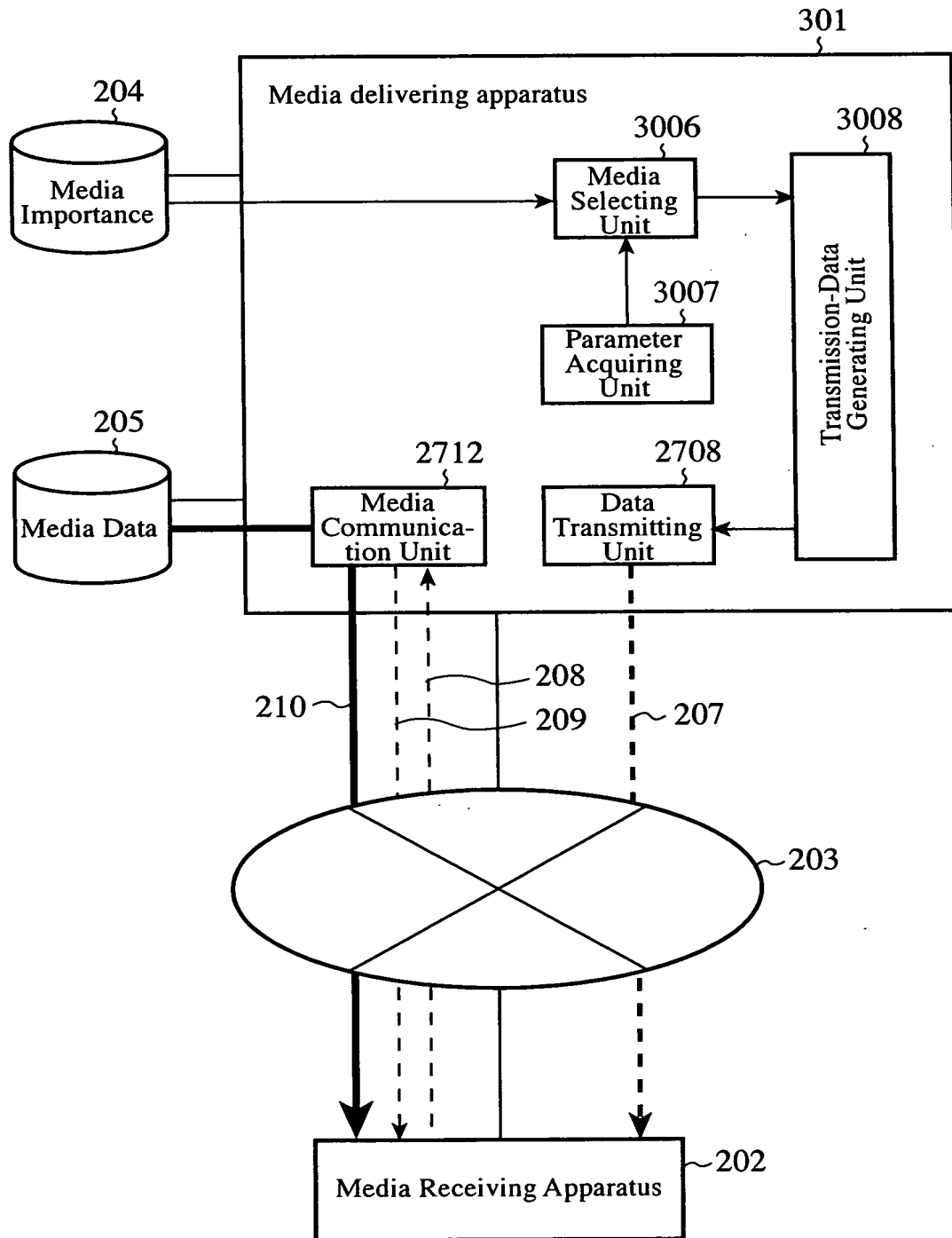
FIG.8





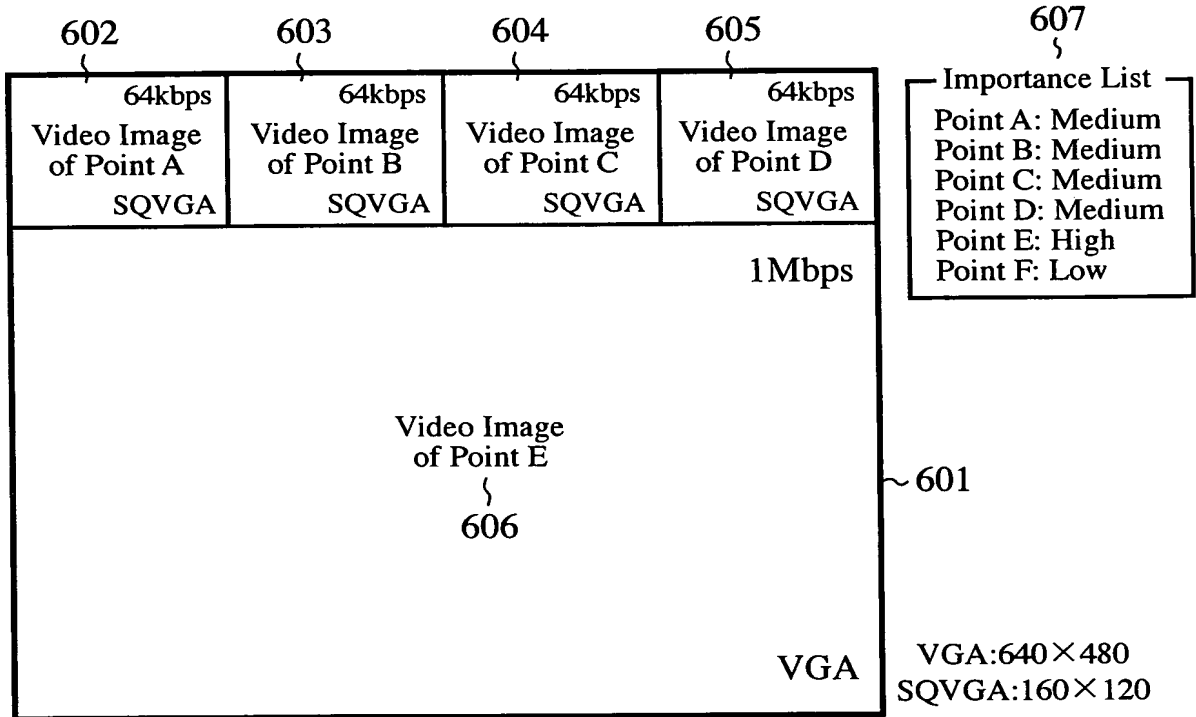
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FIG.9



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FIG.10



Communication Band of Network : 1.5Mbps  
 Display Resolution of Media Receiving Apparatus : XGA(1024×768)

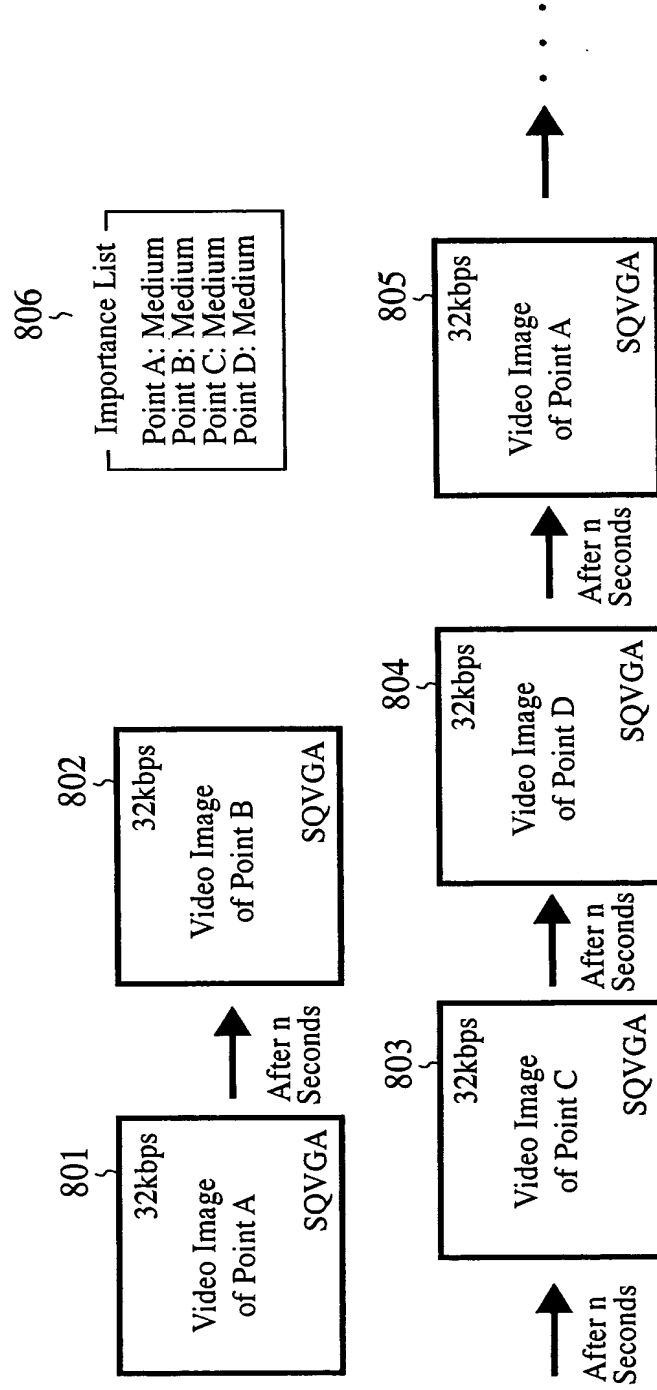
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## FIG.11

1201

```
<smil>
<head>
  <layout>
    <root-layout width="640" height="600"/>
    <region id="sumnail1" left="0" top="0" width="160" height="120" />
    <region id="sumnail2" left="160" top="0" width="160" height="120" />
    <region id="sumnail3" left="320" top="0" width="160" height="120" />
    <region id="sumnail4" left="480" top="0" width="160" height="120" />
    <region id="important" left="0" top="120" width="640" height="480" />
  </layout>
</head>
<body>
  <par>
    <video region="sumnail1" src="rtsp://server/A.mp4" />
    <video region="sumnail2" src="rtsp://server/B.mp4" />
    <video region="sumnail3" src="rtsp://server/C.mp4" />
    <video region="sumnail4" src="rtsp://server/D.mp4" />
    <video region="important" src="rtsp://server/E.mp4" />
  </par>
</body>
</smil>
```

FIG.12



Communication Band of Network : 32kbps  
 Display Resolution of Media Receiving Apparatus : SQVGA(160×120)

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FIG.13

1401

```
<smil>
  <head>
    <layout>
      <root-layout width="160" height="120"/>
      <region id="one" left="0" top="0" width="160" height="120" />
    </layout>
  </head>
  <body>
    1402 <seq repeat="indefinite" >
    1403   <video region="one" src="rtsp://server/A.mp4" dur="30s" />
        <video region="one" src="rtsp://server/B.mp4" dur="30s" />
        <video region="one" src="rtsp://server/C.mp4" dur="30s" />
        <video region="one" src="rtsp://server/D.mp4" dur="30s" />
      </seq>
  </body>
</smil>
```

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FIG.14

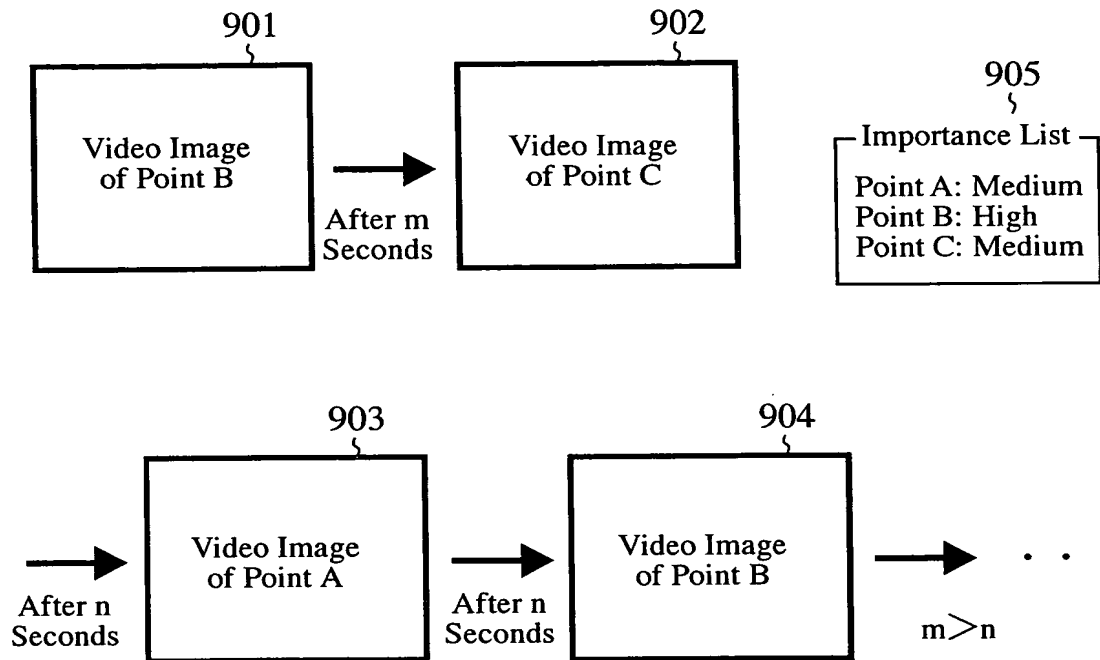
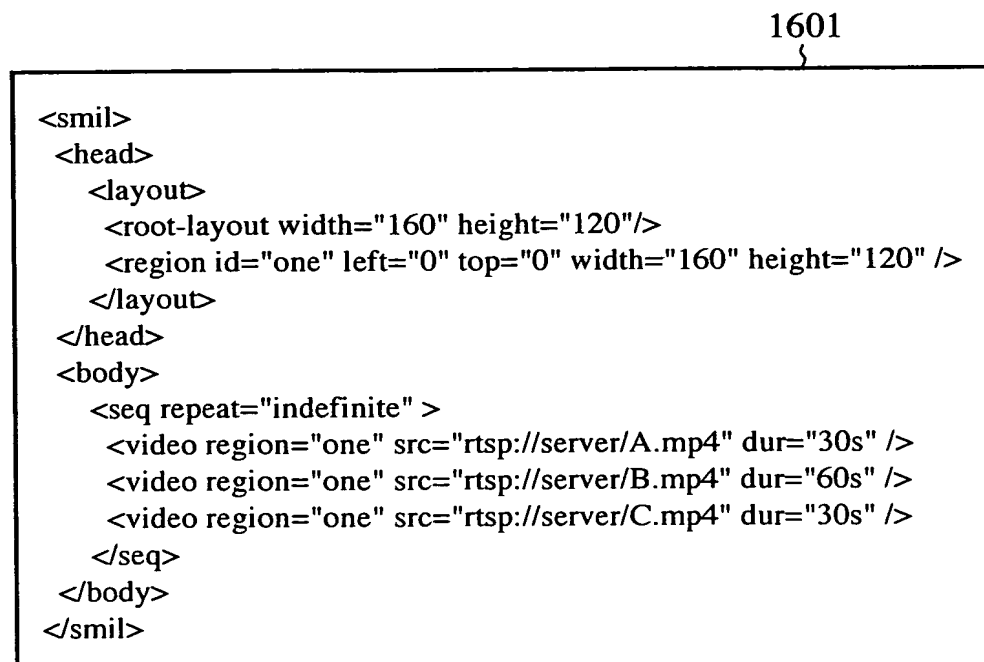


FIG.15



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FIG.16

1502 ~1501

1503

```

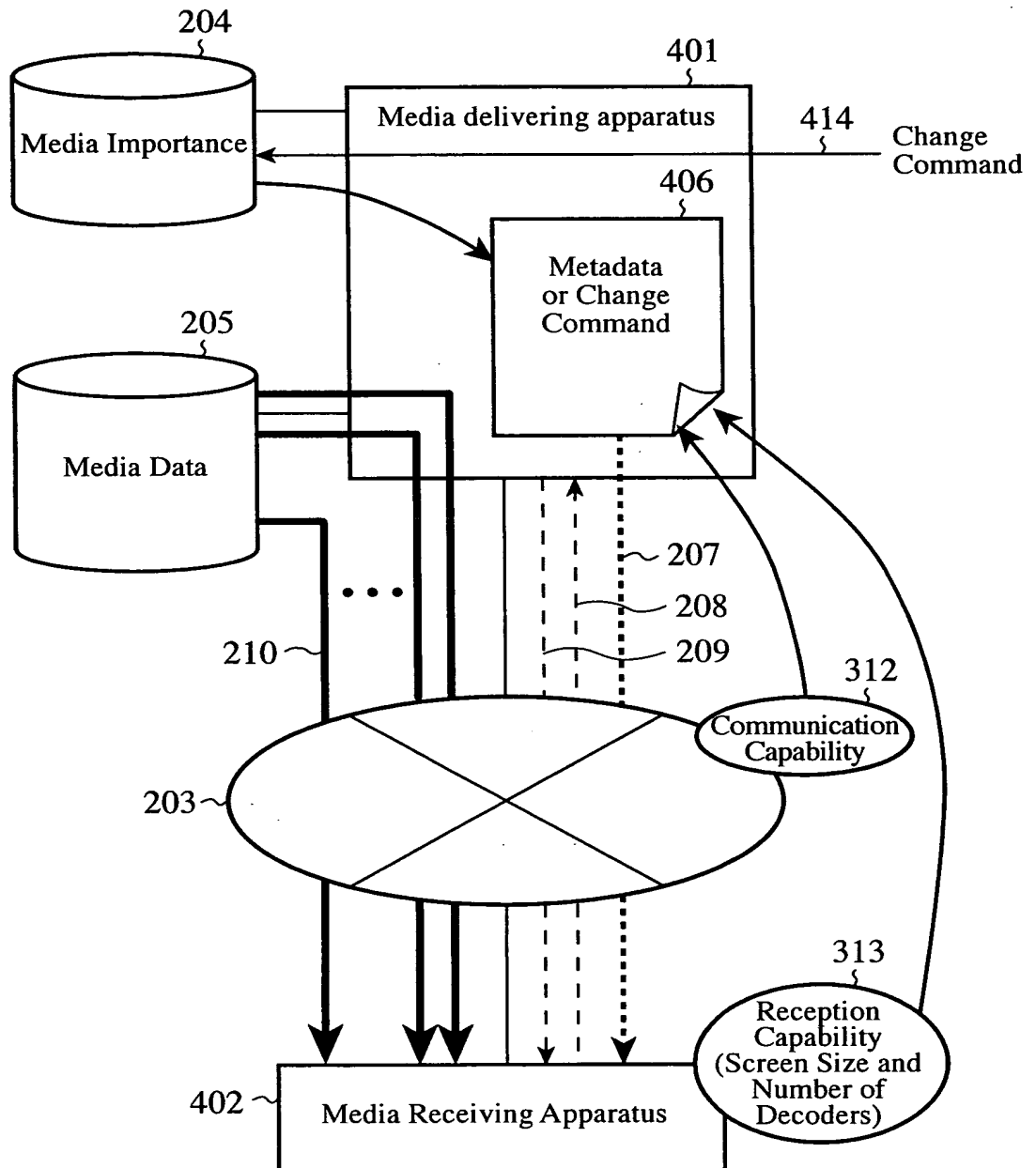
</smil>
</head>
</switch>
<layout systemBitrate="1024">
  <root-layout width="640" height="480"/>
  <region id="topleft" left="0" top="0" width="320" height="240" />
  <region id="topright" left="320" top="0" width="320" height="240" />
  <region id="bottomleft" left="0" top="240" width="320" height="240" />
  <region id="bottomright" left="320" top="240" width="320" height="240" />
</layout>
</layout>
<root-layout width="160" height="120" />
<region id="one" left="0" top="0" width="160" height="120" />
</layout>
</switch>
</head>
<body>
<switch>
  <par systemBitrate="1024">
    <video region="topleft" src="rtsp://server/A.mp4" />
    <video region="topright" src="rtsp://server/B.mp4" />
    <video region="bottomleft" src="rtsp://server/C.mp4" />
    <video region="bottomright" src="rtsp://server/D.mp4" />
  </par>
  <seq repeat="indefinite">
    <video region="one" src="rtsp://server/A.mp4" dur="30s" />
    <video region="one" src="rtsp://server/B.mp4" dur="30s" />
    <video region="one" src="rtsp://server/C.mp4" dur="30s" />
    <video region="one" src="rtsp://server/D.mp4" dur="30s" />
  </seq>
</switch>
</body>
</smil>

```

1504

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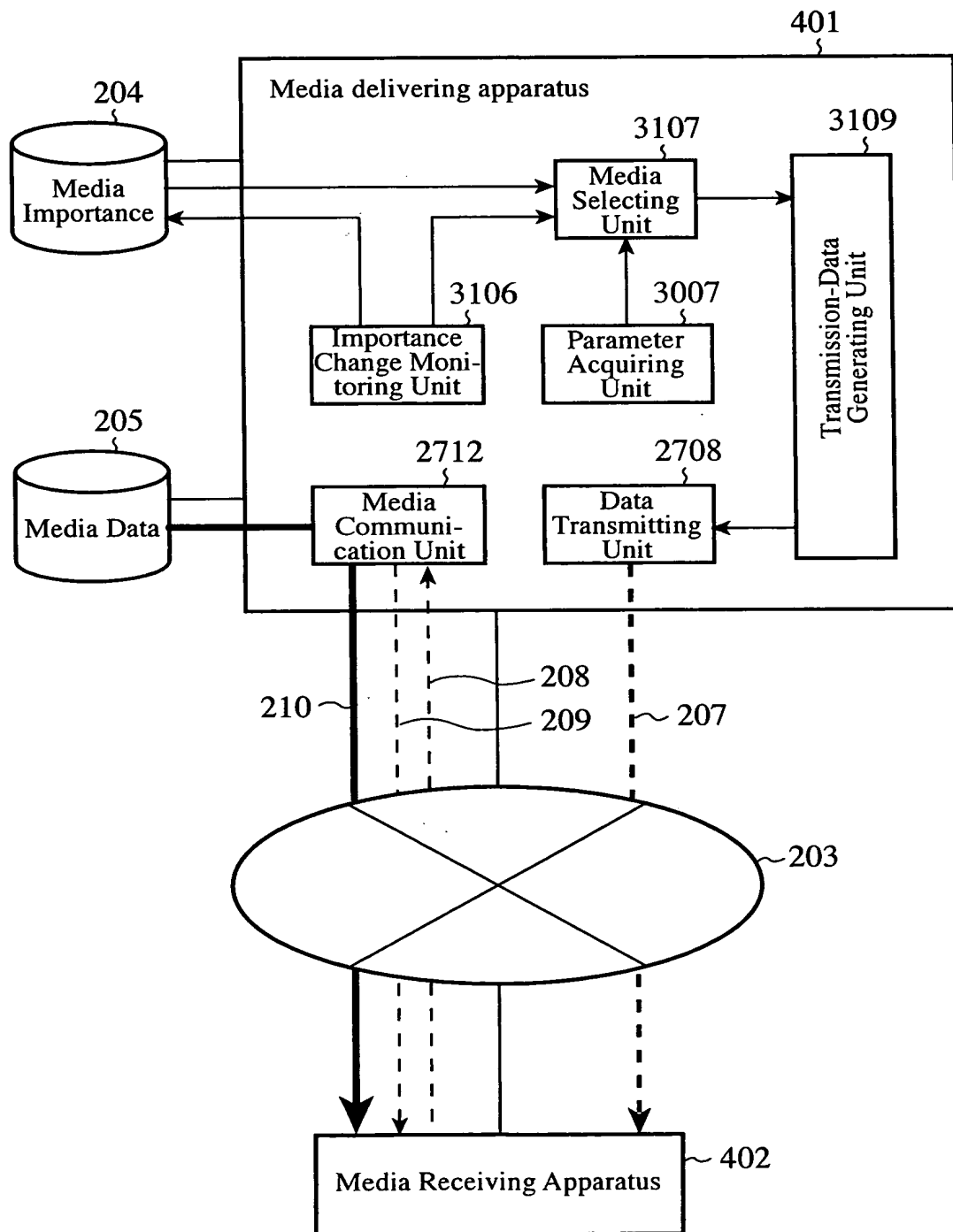
FIG.17





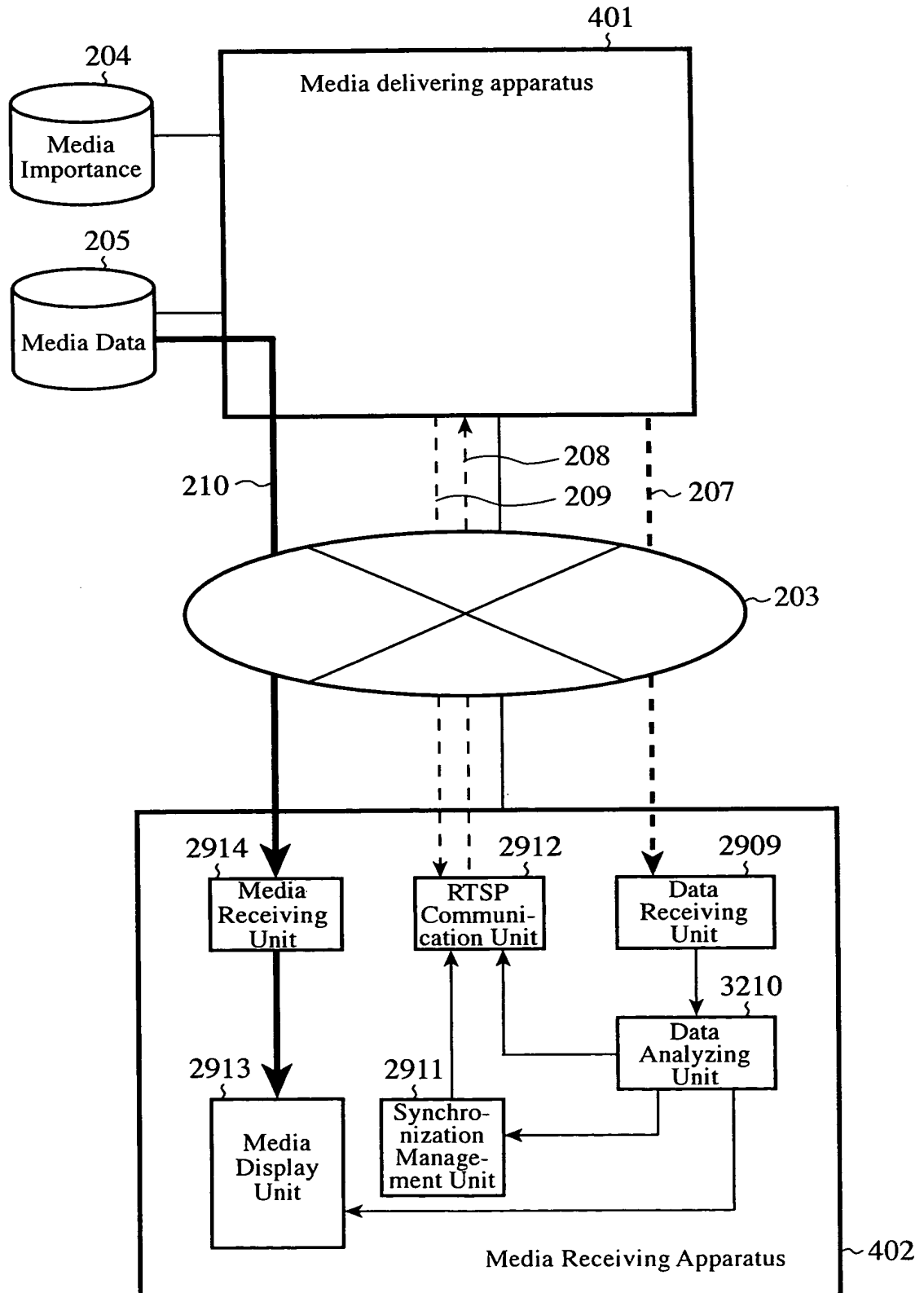
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FIG.18



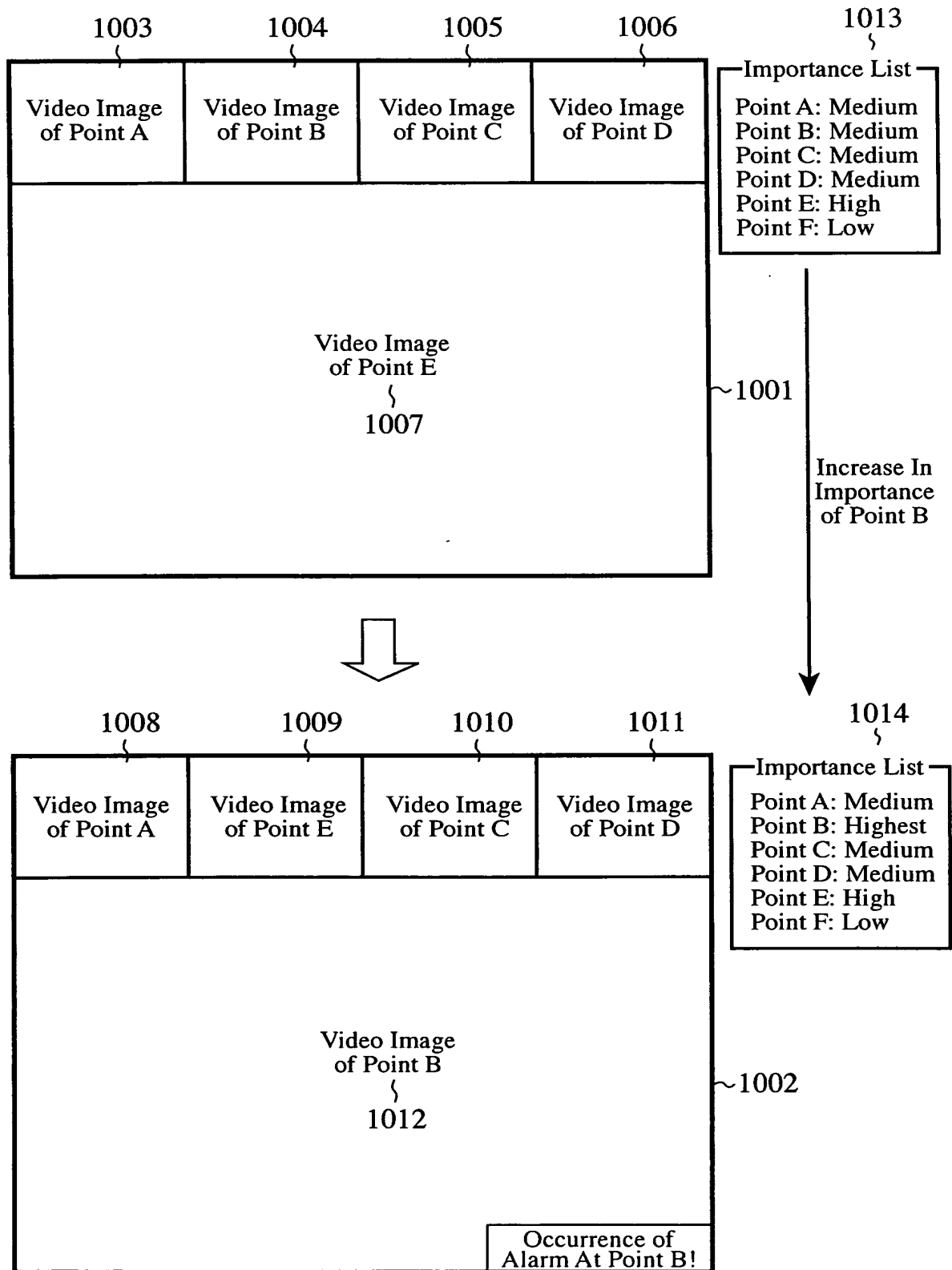
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FIG.19



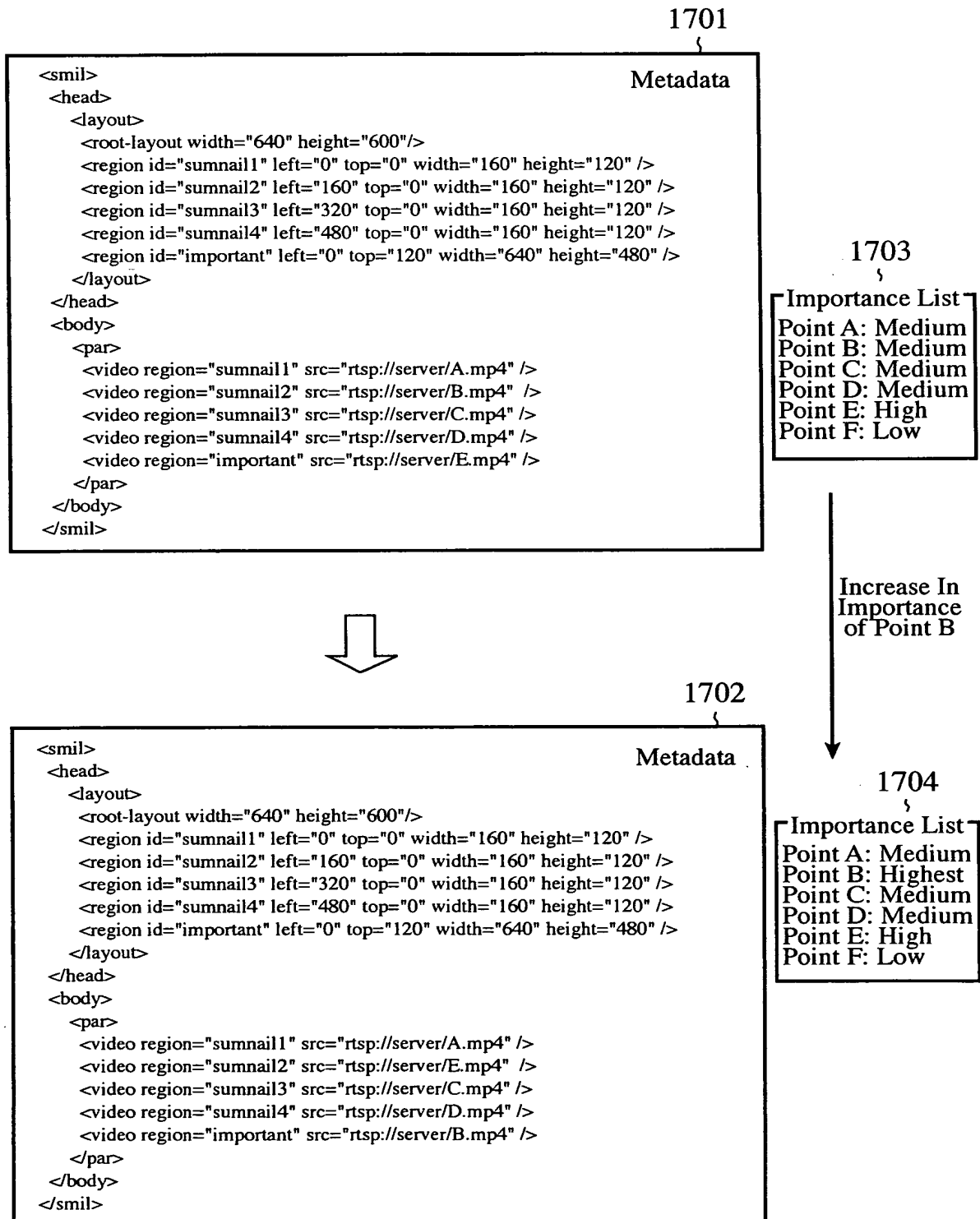
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FIG.20



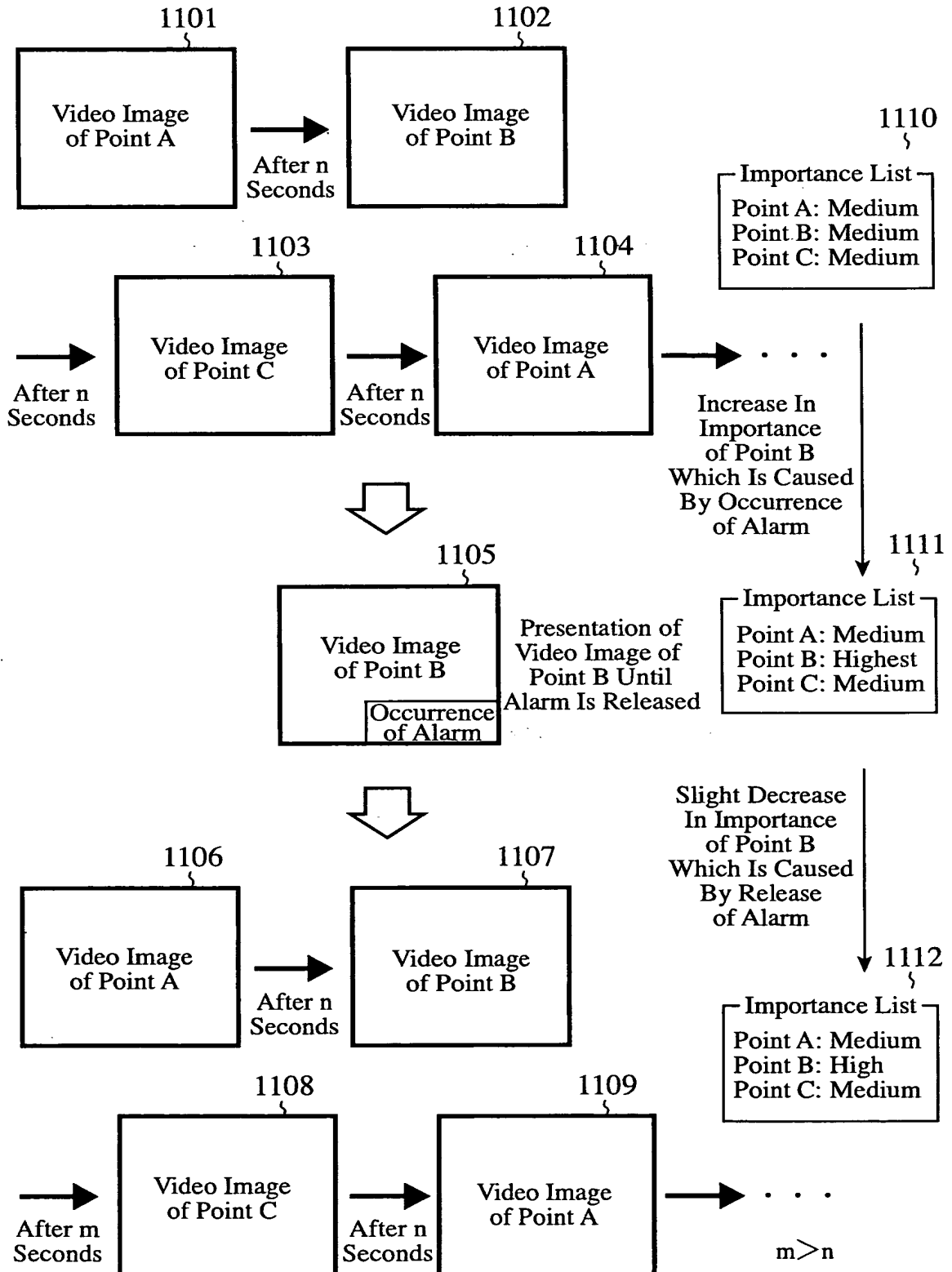
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FIG.21



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FIG.22



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FIG.23

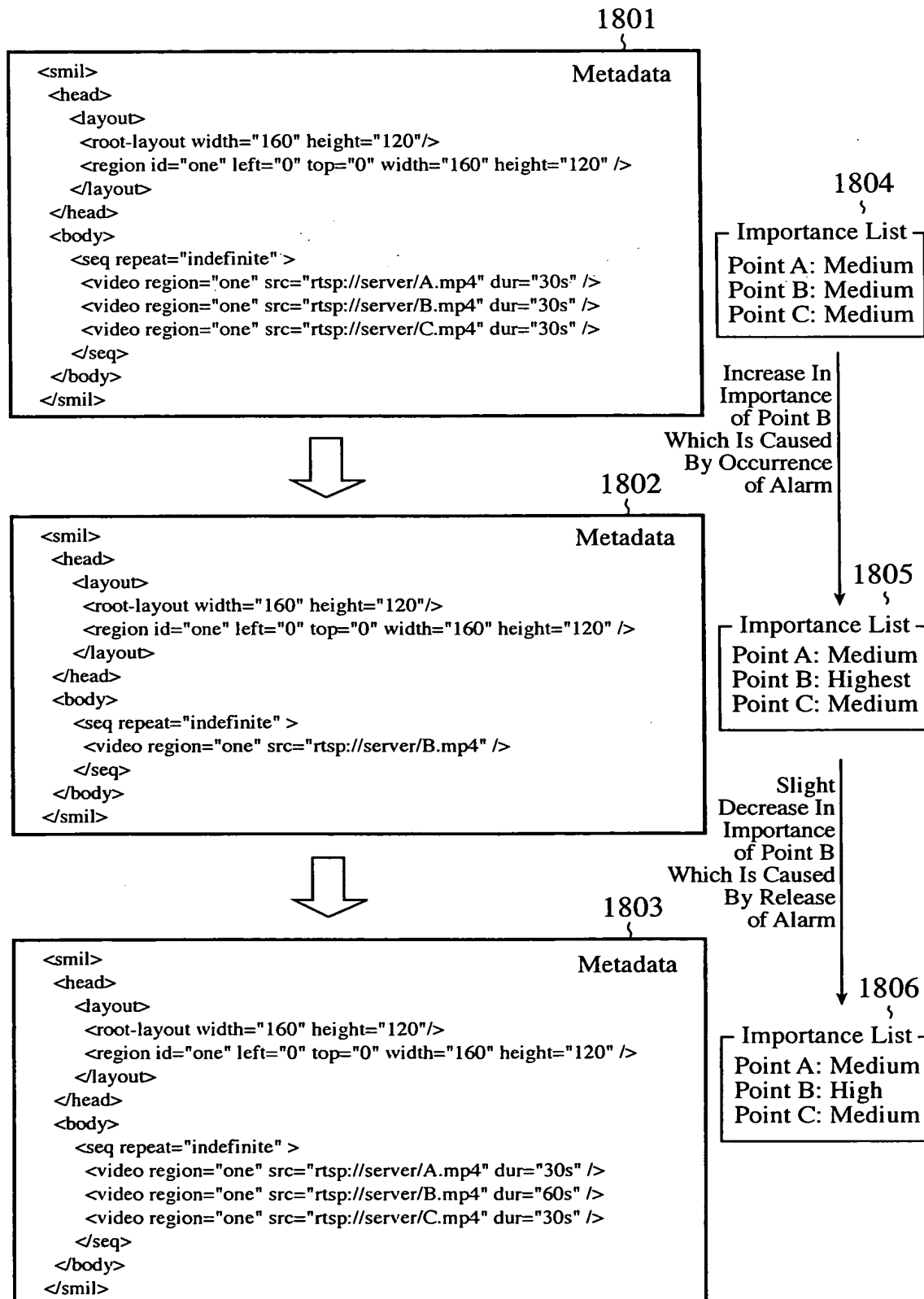


FIG.24

Format of Change Command

2401

```
add_elem {Absolute Node; <Additional Element, Attribute> (; Execution Time)}
add_attr {Absolute Node; Additional Attribute (; Execution Time)}
replace_elem {Absolute Node; <Replacement Element, Attribute> (; Execution Time)}
replace_attr {Absolute Node; Replacement Attribute (; Execution Time)}
delete_elem {Absolute Node; <Deletion Element> (; Execution Time)}
delete_attr {Absolute Node; Deletion Attribute (; Execution Time)}
```

2402

```
<smil>
<head>
<layout>
<root-layout width="640" height="480"/>
<region id="topleft" left="0" top="0" width="320" height="240" />
<region id="topright" left="320" top="0" width="320" height="240" />
<region id="bottomleft" left="0" top="240" width="320" height="240" />
<region id="bottomright" left="320" top="240" width="320" height="240" />
</layout>
</head>
<body>
<par dur="600s">
<video region="topleft" src="rtsp://server/A.mp4" begin="8:30"/>
<video region="topright" src="rtsp://server/B.mp4" begin="14:10"/>
<video region="bottomleft" src="rtsp://server/C.mp4" begin="12:30"/>
<video region="bottomright" src="rtsp://server/D.mp4" begin="10:20"/>
</par>
</body>
</smil>
```

Absolute Node  
Correspondence  
Table

1  
1,1  
1,1,1  
1,1,1,1  
1,1,1,2  
1,1,1,3  
1,1,1,4  
1,1,1,5  
  
1,2  
1,2,1  
1,2,1,1  
1,2,1,2  
1,2,1,3  
1,2,1,4

~2403

FIG.25

```
replace_attr { 1,2,1,2;src="rtsp://server/E.mp4" }  
replace_attr { 1,2,1,5;src="rtsp://server/B.mp4" }
```

~ 1901

FIG.26

```
delete_elem { 1,2,1,3 }  
delete_elem { 1,2,1,1 }
```

~ 2001

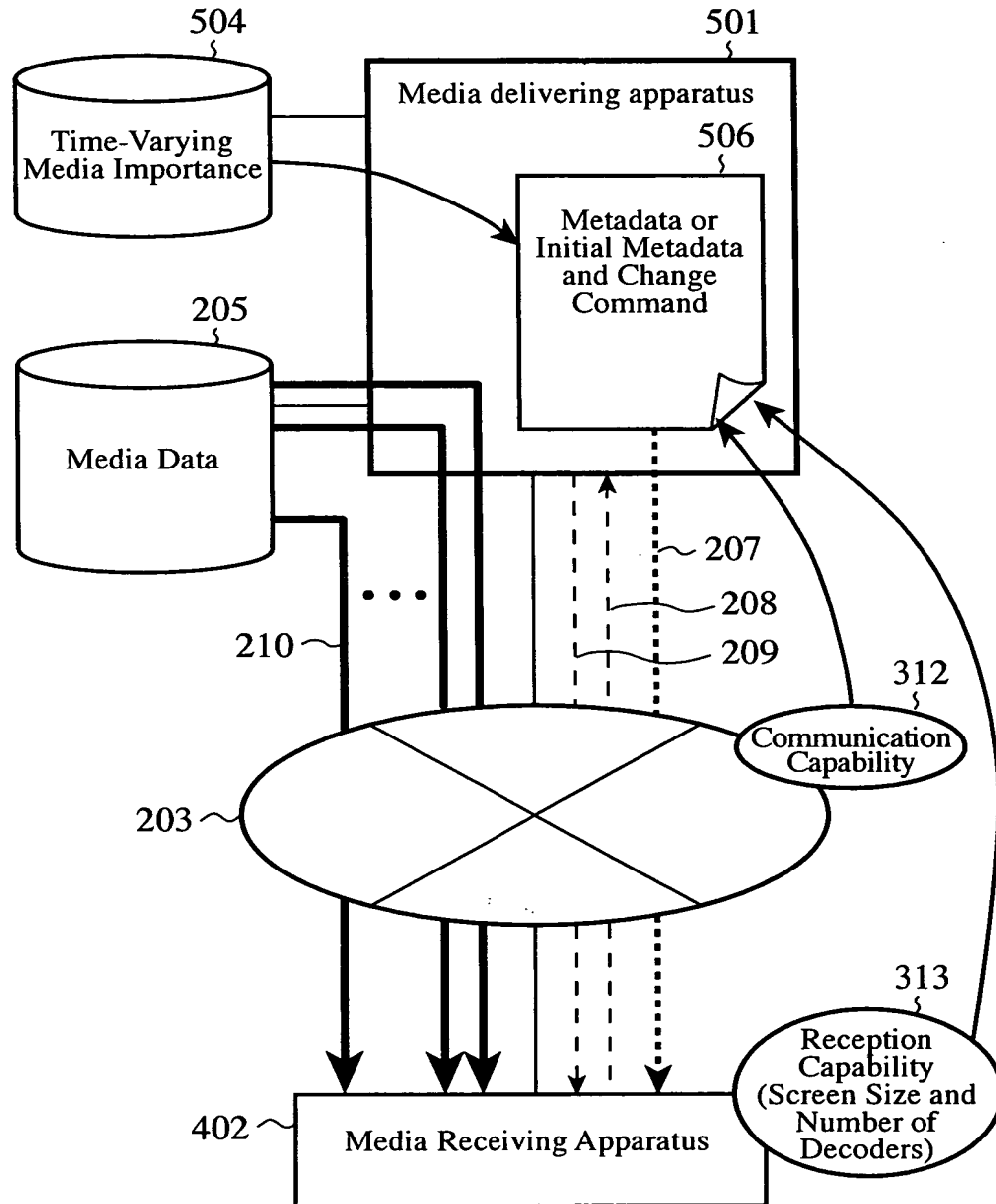
2002  
}

```
add_elem{ 1,2,1,1;<video region="one"src="rtsp://server/A.mp4"dur="30s"/> }  
add_attr{ 1,2,1,2;dur="60s" }  
add_elem{ 1,2,1,3;<video region="one"src="rtsp://server/C.mp4"dur="30s"/> }
```



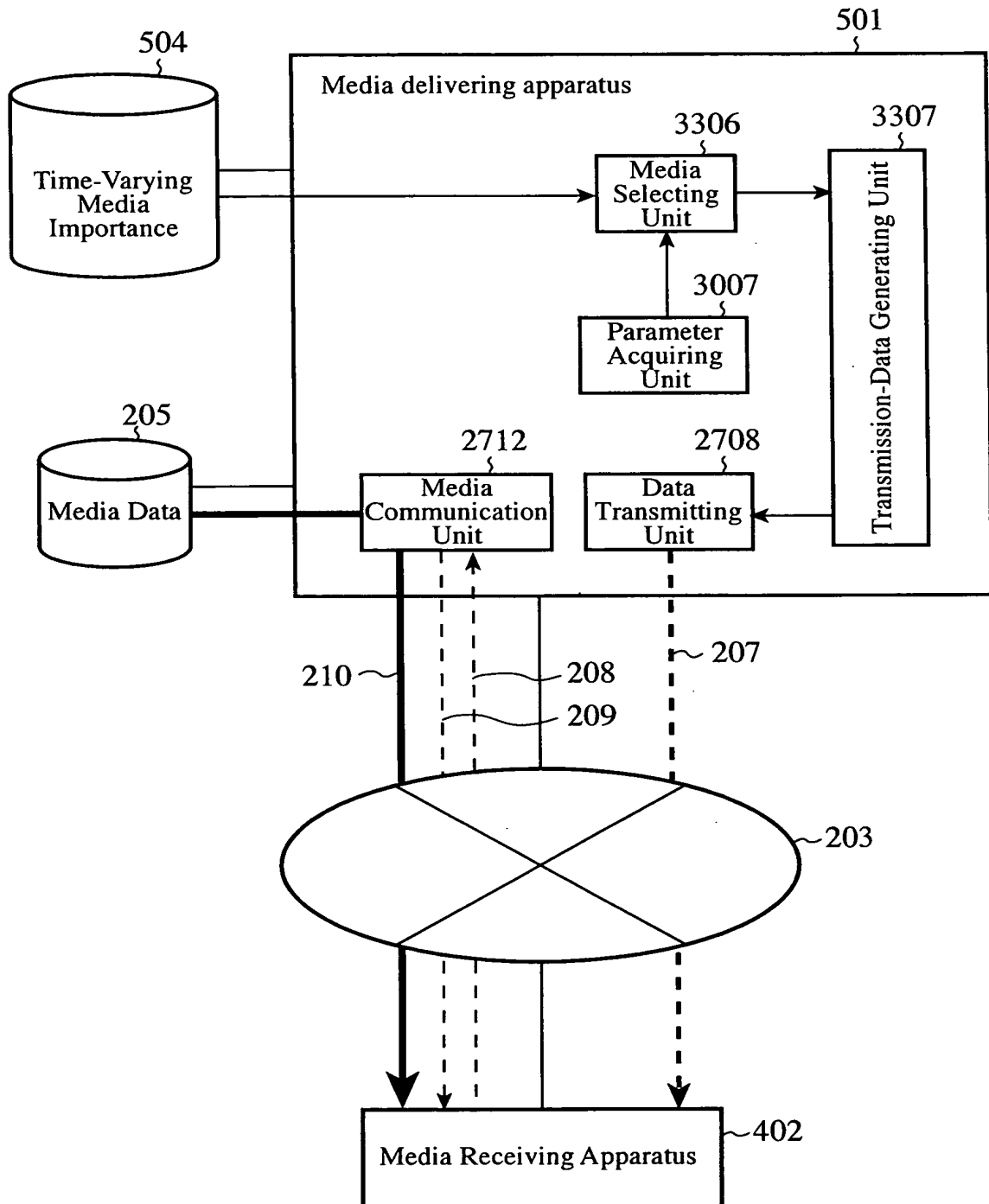
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FIG.27



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FIG.28



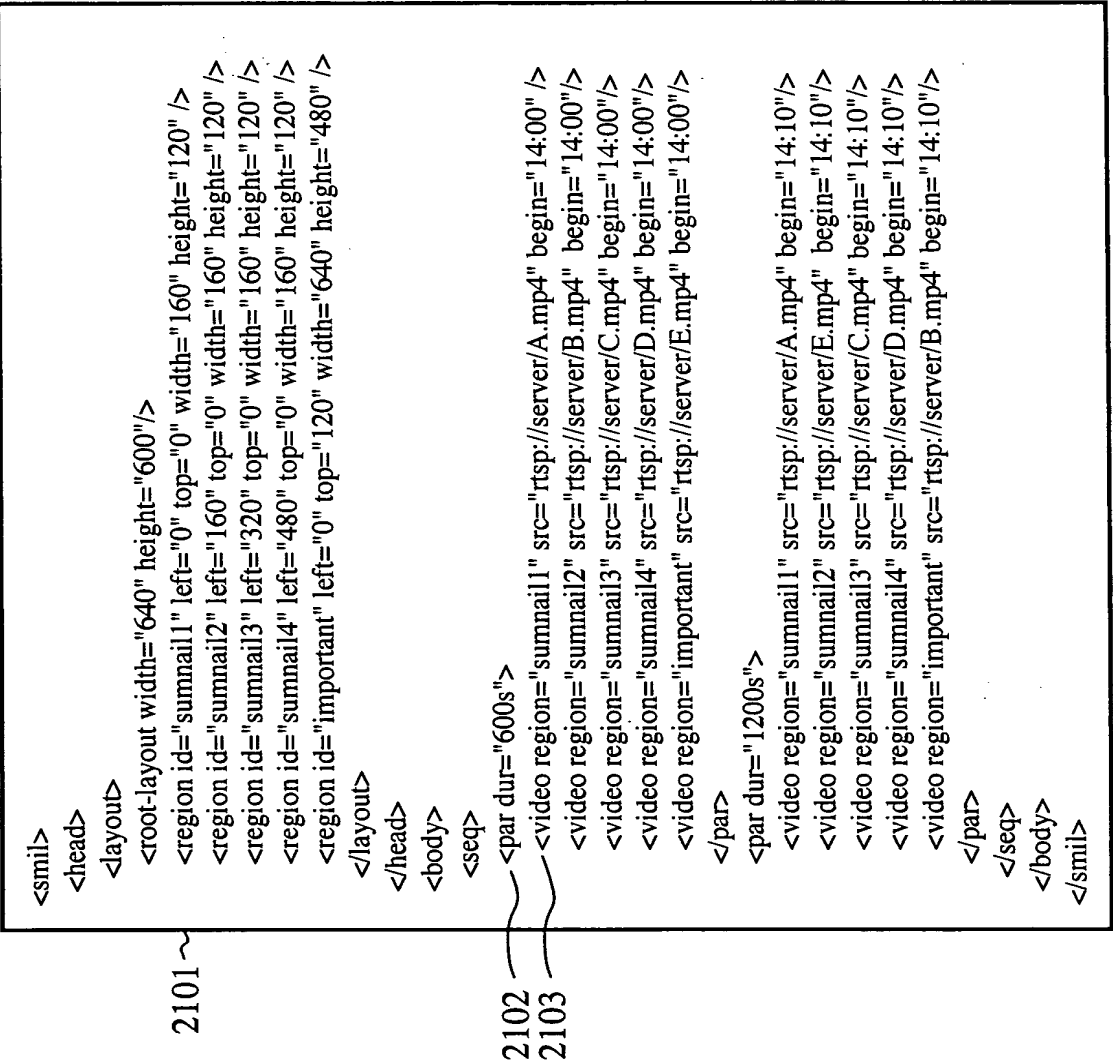
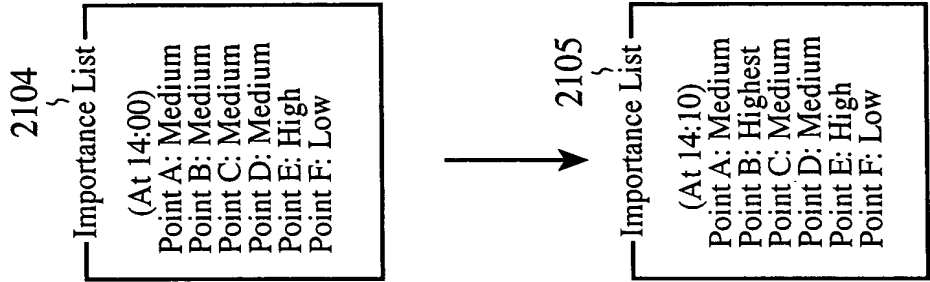
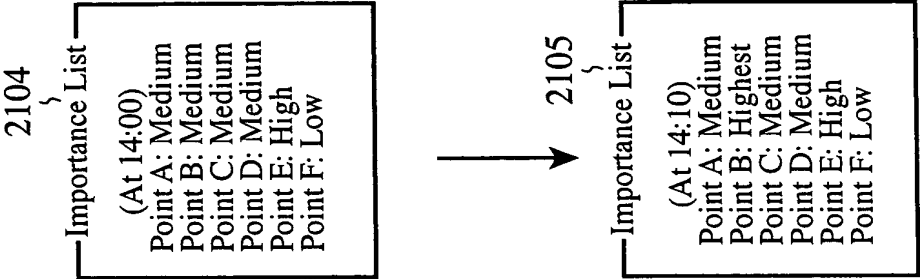
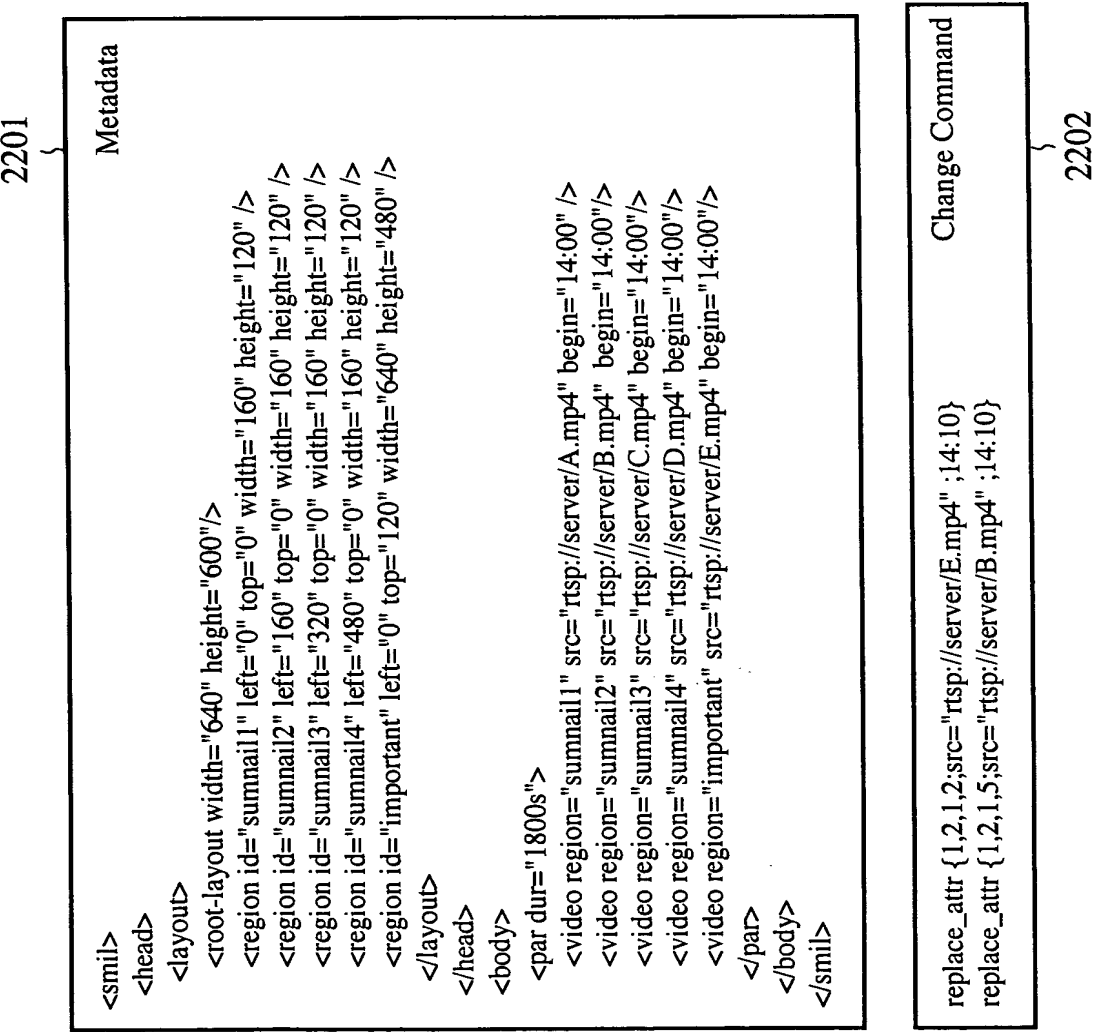
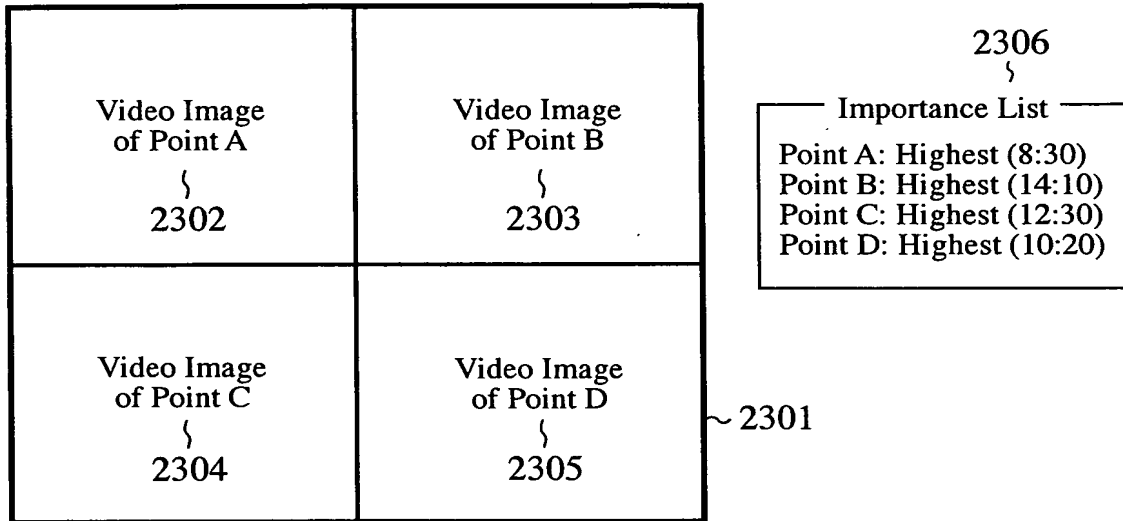


FIG.30



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FIG.31



2307

```

<smil>
<head>
  <layout>
    <root-layout width="640" height="480"/>
    <region id="topleft" left="0" top="0" width="320" height="240" />
    <region id="topright" left="320" top="0" width="320" height="240" />
    <region id="bottomleft" left="0" top="240" width="320" height="240" />
    <region id="bottomright" left="320" top="240" width="320" height="240" />
  </layout>
</head>
<body>
  <par dur="600s">
    <video region="topleft" src="rtsp://server/A.mp4" begin="8:30"/>
    <video region="topright" src="rtsp://server/B.mp4" begin="14:10"/>
    <video region="bottomleft" src="rtsp://server/C.mp4" begin="12:30"/>
    <video region="bottomright" src="rtsp://server/D.mp4" begin="10:20"/>
  </par>
</body>
</smil>

```

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FIG.32

